

# BOTTOM, CHARMED MESONS ( $B = C = \pm 1$ )

$B_c^+ = c\bar{b}$ ,  $B_c^- = \bar{c}b$ , similarly for  $B_c^*$ 's

NODE=MXXX049

$B_c^\pm$

$I(J^P) = 0(0^-)$   
 $I, J, P$  need confirmation.

Quantum numbers shown are quark-model predictions.

Mass  $m = 6.2745 \pm 0.0018$  GeV

Mean life  $\tau = (0.452 \pm 0.033) \times 10^{-12}$  s

$B_c^-$  modes are charge conjugates of the modes below.

NODE=S091

$B_c^+$ DECAY MODES $\times B(\bar{b} \rightarrow B_c)$	Fraction ( $\Gamma_i/\Gamma$ )	Confidence level	$p$ (MeV/c)
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The following quantities are not pure branching ratios; rather the fraction  $\Gamma_i/\Gamma \times B(\bar{b} \rightarrow B_c)$ .

$J/\psi(1S)\ell^+\nu_\ell$ anything	$(5.2 \begin{array}{l} +2.4 \\ -2.1 \end{array}) \times 10^{-5}$	—	
$J/\psi(1S)\pi^+$	seen		2370
$J/\psi(1S)\pi^+\pi^+\pi^-$	seen		2350
$J/\psi(1S)a_1(1260)$	$< 1.2 \times 10^{-3}$	90%	2169
$D^*(2010)^+\bar{D}^0$	$< 6.2 \times 10^{-3}$	90%	2467
$D^+K^{*0}$	$< 0.20 \times 10^{-6}$	90%	2783
$D^+\bar{K}^{*0}$	$< 0.16 \times 10^{-6}$	90%	2783
$D_s^+K^{*0}$	$< 0.28 \times 10^{-6}$	90%	2751
$D_s^+\bar{K}^{*0}$	$< 0.4 \times 10^{-6}$	90%	2751
$D_s^+\phi$	$< 0.32 \times 10^{-6}$	90%	2727

NODE=S091M;DTYPE=M

NODE=S091T;DTYPE=T;OUR EVAL;  
→ UNCHECKED ←

NODE=S091215;NODE=S091

CLUMP=A;NODE=S091

DESIG=1;OUR EVAL;→ UNCHECKED ←  
DESIG=2;OUR EVAL;→ UNCHECKED ←  
DESIG=3;OUR EVAL;→ UNCHECKED ←  
DESIG=4;OUR EVAL;→ UNCHECKED ←  
DESIG=5;OUR EVAL;→ UNCHECKED ←  
DESIG=6;OUR EVAL;→ UNCHECKED ←  
DESIG=7;OUR EVAL;→ UNCHECKED ←  
DESIG=8;OUR EVAL;→ UNCHECKED ←  
DESIG=9;OUR EVAL;→ UNCHECKED ←  
DESIG=10;OUR EVAL;→ UNCHECKED ←